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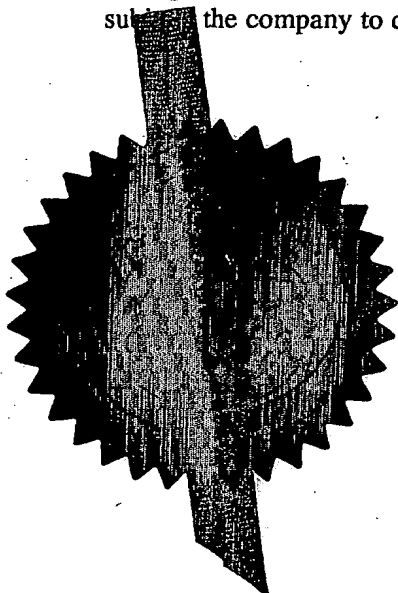
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1. Your Reference		P.7517 GBA

2. Patent application number
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3. Full name, address and postcode of the or of each applicant *(underline all surnames)*	WATERLEAF LIMITED 1st Floor 28 Victoria Street Douglas IM1 2LE, GB

Patents ADP number *(if you know it)*

If the applicant is a corporate body, give the country/state of its incorporation	ISLE OF MAN 08230831002

4. Title of the invention	BROADCAST SYSTEM

5. Name of your agent *(if you have one)*

"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*	MAGUIRE BOSS 5 Crown Street St. Ives Cambridgeshire PE27 5EB, G.B.

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Signature(s)   *Maguire Boss*   Date: 23.12.04

MAGUIRE BOSS

12. Name, daytime telephone number and
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15   **BROADCAST SYSTEM**

FIELD OF THE INVENTION

20   This invention relates to a broadcast system and, more particularly, to a broadcast system
      that can be applied to provide television broadcast signals with content derived from
      online multiplayer games, more particularly, but not exclusively, online poker games.
      The invention extends to a method for generating broadcast signals with content derived
      from online multiplayer games, more particularly, but not exclusively, online poker
25   games.

BACKGROUND TO THE INVENTION

      This invention will be described with particular reference to its application in conjunction
30   with a game of multiplayer poker. It is to be clearly understood, however, that the
      application of the invention is not limited to this particular game, but extends to include
      any other online multiplayer game such as, for example, multiplayer blackjack or
      multiplayer roulette.

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5   The game of poker is widely played in many jurisdictions, particularly in the United
States of America. A traditional game of poker is a multiplayer game, generally
accommodating a minimum of 4 and a maximum of between 8 and 10 players.

The game of poker is played at both land-based establishments and in an online
10   environment. A general feature of such arrangements is that the player may only
participate in a poker game at which an unoccupied playing position, or vacancy, exists.
In the online environment, this means that a would-be player may have to wait a
considerable time before a suitable vacant playing position becomes available, which
causes frustration and which may cause player attrition.

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Despite this disadvantage, online poker has rapidly increased in popularity on a global
basis. In order to play poker online, a user is required to download a client software
program and to install the client software program on an Internet-enabled computer
workstation. The client software program allows the player to actively participate in an
20   online multiplayer game or two merely observe other players playing the game.

As far as the applicant is aware, it is not possible to permit Internet users who have not,
installed the client software program to view the playing of an online game, thus limiting
the exposure of the online multiplayer game to potential players thereof. ·

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OBJECT OF THE INVENTION

It is an object of this invention to provide a broadcast system and a method for generating
30   television broadcast signals that will, at least partially, alleviate the above-mentioned
difficulties and disadvantages.

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5 SUMMARY OF THE INVENTION

In accordance with this invention there is provided a broadcast system comprising: an online multiplayer gaming system usable by a plurality of participating players to play at least one turn of an instance of a multiplayer game;

10   means for generating a game play record of events occurring in the at least one turn of the instance of the multiplayer game;

a historical logfile or storing the generated game play record;

a replay means capable of retrieving the stored game play record from the historical logfile and generating therefrom a replay of the at least one turn of the multiplayer game,

15   the replay being delayed relative to the original turn of the game by at least a predetermined time interval; and

a broadcast facility arranged to convert the replay in to a signal for broadcast.

Further features of the invention provide for the online gaming system to be usable by the

20   plurality of participating player to play a plurality of turns of a plurality of instances of the multiplayer game, for the game play recording means to generate game play records corresponding to each one of the plurality of turns of the plurality of instances of the multiplayer game, for the historical logfile to store all the game play records corresponding to the plurality of turns of the plurality of instances of the multiplayer

25   game, for the replay means to retrieve the stored game play records from the historical logfile and to generate simultaneous replays of each one of the plurality of instances of the multiplayer game, and for the broadcast facility to convert each one of the plurality of replays into a separate signal for broadcast, alternatively for the broadcasting facility to convert a selected one of the plurality of replays into a signal for broadcast.

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Still further features of the invention provide for the multiplayer game to be multiplayer poker, for the game play record to include at least one of: an identification code that identifies the particular instance of the game of multiplayer poker; a time and date stamp indicating the commencement of the turn of the game of poker; an identity of each

35   participating players in the turn of the game; an opening credit balance for each participating player; an identification of the player who performs the role of a dealer; a

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5   size of each player wager made during the turn of the game; the hole cards dealt to each participating player; the community cards dealt during the turn of the game; the game play decisions of all the participating player; a closing credit balance for each player; and a time and date stamp indicating the end of the turn of the game of poker.

10   Yet further features of the invention provide for the hole cards of each participating player to be invisible to the other participating players in each turn of the game, for the hole cards of every participating player to be visible in the replay of each turn of the game; for the replay means to analyse the hole cards of each participating player and the community cards that are dealt in a turn of the game to determine a probability of each
15   participating player obtaining a favourable hand of poker, and for the replay means to display the probabilities in the replay of the turn of the game.

There is also provided for the replay means to be an Internet-enabled computer workstation, and for the broadcast facility to be a scan converter operatively linked to the
20   computer workstation.

The invention extends to a method for generating broadcast signals comprising the steps of:

providing an online multiplayer gaming system usable by a plurality of participating
25   players to play at least one turn of an instance of a multiplayer game;
generating a game play record of events occurring in the at least one turn of the instance of the multiplayer game;
storing the generated game play record in a historical logfile;
retrieving the stored game play record from the historical logfile and generating
30   therefrom a replay of the at least one turn of the multiplayer game, the replay being delayed relative to the original turn of the game by at least a predetermined time interval; and

converting the replay in to a signal for broadcast.

35   There is further provided for enabling use of the online gaming system by the plurality of participating player to play a plurality of turns of a plurality of instances of the

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multiplayer game, for generating game play records corresponding to each one of the plurality of turns of the plurality of instances of the multiplayer game, for storing all the game play records corresponding to the plurality of turns of the plurality of instances of the multiplayer game in the historical logfile, for retrieving the stored game play records from the historical logfile and generating simultaneous replays of each one of the plurality of instances of the multiplayer game, and for converting each one of the plurality of replays into a separate signal for broadcast, alternatively for converting a selected one of the plurality of replays into a signal for broadcast.

There is still further provided for establishing the multiplayer game to be multiplayer poker, for including in the game play record at least one of: an identification code that identifies the particular instance of the game of multiplayer poker; a time and date stamp indicating the commencement of the turn of the game of poker; an identity of each participating players in the turn of the game; an opening credit balance for each participating player; an identification of the player who performs the role of a dealer; a size of each player wager made during the turn of the game; the hole cards dealt to each participating player; the community cards dealt during the turn of the game; the game play decisions of all the participating player; a closing credit balance for each player; and a time and date stamp indicating the end of the turn of the game of poker.

There is yet further provided for rendering the hole cards of each participating player to be invisible to the other participating players in each turn of the game, for rendering the hole cards of every participating player to be visible in the replay of each turn of the game; for analysing the hole cards of each participating player and the community cards that are dealt in a turn of the game and determining a probability of each participating player obtaining a favourable hand of poker, and for displaying the probabilities in the replay of the turn of the game.

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BRIEF DESCRIPTION OF THE DRAWINGS

One embodiment of the invention is described below, by way of example only, and with reference to the accompanying drawings, in which:

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Figure 1 is schematic representation of a broadcast system according to the invention; and

Figure 2 is a schematic representation of an online multiplayer poker system of the broadcast system of Figure 1.

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DETAILED DESCRIPTION OF THE INVENTION

Referring to Figures 1 and 2, in which like features of the invention are indicated by like
20   numerals, a broadcast system is indicated generally by reference numeral (1).

The broadcast system (1) includes an online poker system (2) that enables any number of players to participate in online games of multiplayer poker, a group of four Internet-enabled broadcast terminals (3), each having a corresponding scan converter (4), and a
25   broadcast control facility (5) of a type that is well known in the art.

Referring now specifically to Figure 2, the online poker system (2) includes a gaming server (10), a portal web site (11) on the World Wide Web of the Internet, and a historical game logfile (12) in the form of a database. The portal web site (11) is accessible by a
30   would-be poker player (not shown) through a user access facility (13) in the form of an Internet-enabled computer workstation having a display (14) and an associated pointing device (15) such as a mouse or, alternatively, a touchpad. In this embodiment, the portal web site (11) is shown as having two computer workstations (13) logically connected thereto. It will be appreciated by those skilled in the art that such a portal web site (11)
35   can be logically connected to any desired number of such computer workstations (13)

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5   simultaneously, which number is physically limited only by considerations of processing
       power and Internet access bandwidth.

       In order to participate in a game of multiplayer poker a would-be player is required to
       access the portal website (11), to download a client software program (not shown) and to
10   install the downloaded client software program on the computer workstation (13). Once
       the client software program (not shown) has been installed, the would-be player is
       required to register and to establish a credit account on the gaming server (10). The
       gaming server (10) maintains a credit account for each registered player who wishes to
       play a game of online multiplayer poker through a respective computer workstation (13)
15   logically connected to the portal website (11). In the illustrative embodiment, the gaming
       server (10) has two player credit accounts.

       The gaming server (10) operates under control of a server stored program (not shown)
       that is capable of enabling a predetermined maximum number, say 8, of players to play
20   an instance of the game of multiplayer poker. When the number of players reaches this
       predetermined maximum number, the server software program causes a further instance
       of the game to be initiated, the new instance also being able of accommodating a further 8
       players. In this way, the gaming server (10) is capable, under control of the server
       software program (not shown), to spawn as many separate instances of the game of
25   multiplayer poker is required in order to accommodate a pool of players who desired to
       play the game, in groups of a maximum of 8. Each instance of the game spawned in this
       manner is treated as totally independent on the other instances.

       The client software program (not shown) on the computer workstation (13) enables a
30   player who desires to join the game of multiplayer poker to request participation in the
       game and, once admitted to an instance of the game, to place a wager on a turn of that
       instance of the game. Each participating player is presented with an identical graphical
       user interface (GUI) on his respective computer workstation (13). The GUI presents to
       the player a suitable display of a poker game (not shown), with appropriate activatable
35   icons that enable the player to make his own desired game play decisions and to monitor

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5   the progress of the instance of the multiplayer game by viewing the game play decisions
       of the other participating players in the same instance of the game.

       The server stored program (not shown) also provides a discrimination means (16) capable
       of determining whether any wager placed by any one of the participating players on the
10   turn of the instance of the game of multiplayer poker is successful or unsuccessful. The
       server software program (not shown) also settles the wagers of the participating players
       after the completion of every turn of any instance of the game.

       Each computer workstation (13) is a conventional personal computer operating under a
15   Windows XP operating system, which is well known and commercially available from
       the Microsoft Corporation of Seattle, Washington, USA. The gaming server (10) operates
       under a Windows NT operating system, which is also a product of the Microsoft
       Corporation. The zero-sum game of multiplayer poker consists of the client software
       program (not shown) referred to, for convenience, as a client process that is executable on
20   a computer workstation (13), and the corresponding server software program (not
       shown), or server process, that is executable on the gaming server (10), The server
       process (not shown) generates one or more random events that affect the outcome of the
       game of multiplayer poker, such as the dealing of cards to participating players. The
       client process (not shown) obtains the result of the ransom events from the gaming server
25   (10), across the communication network and displays the outcome of the game on the
       display monitor (14) in an intelligible manner.

       In use, a player wishing to participate in the game of poker uses a computer workstation
       (13) to access the portal website (11). The player is presented with an icon (not shown)
30   on the GUI on his computer workstation (13), which the player can activate in order to
       request participation in the poker game. The layer's request for participation is
       adjudicated and processed by the gaming server (10) in the following manner:

       1. If all existing instances of the poker game are currently being played by 8
35   players, the existing instances of the game are all fully occupied and the would-

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be player cannot be admitted to any instance of the game. The would-be player is notified of the situation and prompted to join a waiting list of would-be players;

2. if any one of the existing instances of the poker game does have a vacancy, the would-be player is admitted to that instance of the game or, if previously on the waiting list, is removed therefrom and admitted to that instance of the game. An appropriate multiplayer poker GUI is presented to the newly-admitted player to allow him to play the game and to place wagers thereon;

3. a register of active participating players is updated to include the details of the newly-admitted player, together with data representative of the particular instance of the game to which he has been admitted;

4. when the waiting list of would-be players has grown sufficiently large, say 4 or 5 would-be players, the gaming server (10) spawns a new instance of the game to accommodate the would-be players in the waiting list, and the list is flushed; and

5. the register of active participating players is updated to include the details of all the newly-admitted players in the newly-spawned instance of the game, together with data representative of the particular instance of the game to which the players have been admitted.

The client process (not shown) displays the game to each participating player as a simulated poker table around which the participating players are seated. The player wagers are represented by piles of chips appearing on the table surface, while dealt cards are represented either as face-up or facedown according to the type of poker game being played. For example, in stud poker, a player's hole cards are visible to all participating players on their respective computer workstations (13). The individual players' game play decisions are visible in a scrollable text area adjacent the displayed simulated poker table.

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5   Once the turn of the game has been completed, the discrimination means (15) determines
which of the players is the winner of the turn and the gaming server (2) settles the wagers
placed by the participating players on that turn of the instance of the game.

Any player is able to leave the instance of the poker game in which he is participating at
10   any time upon completion of a turn of that instance of the game. When a participating
player leaves an instance of the poker game, the player's departure results in the online
poker system (2) undertaking the following actions:

1. the GUI corresponding to the poker game on the computer workstation is replaced
15   by a different one to according to the requirements of an operator of the particular
gaming server (10);

2. the departing player's details are removed from the register of active participating
players; and
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3. the remaining instances of the game are analysed in order to collapse any sparsely
populated instances of the game and to consolidate the participating players in
these instances into a single more densely populated instance of the game.

25   During the course of the turn of the instance of the game of multiplayer poker, the
gaming server (10) constructs a game play record that contains data relating to all events
that occurred during the turn of the game of multiplayer poker. The event data contained
in a game play record includes:

30   • an identification code that identifies the particular instance of the game of
multiplayer poker;
• a time and date stamp indicating the commencement of the turn of the game of
poker;
• the identities of all the participating players, each of which can be a player's real
35   name or an assumed name, and each player's position at the poker table;

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- an opening credit balance for each player;
- the player who performs the role of a dealer;
- the size of each player wager made during the turn of the game;
- the hole cards dealt to each participating player;
- the community cards dealt during the turn of the game;
- the game play decisions of all the participating player, namely one of ante, bet, blind bet, call, check, checkraise, fold or raise, all of which terms are well known in the art and will not be explained in detail;
- a closing credit balance for each player; and
- a time and date stamp indicating the end of the turn of the game of poker.

When the turn of the instance of the game is completed and a winner has been decided and the player wagers have been settled, the gaming server (10) stores the game play record for that particular turn of the game away in the game logfile (12). Each game play record comprises a historical record of the progress of a respective turn of the game of multiplayer poker.

Each one of the four broadcast terminals (3) executes an adaptation of the client software program (not shown) that is downloaded and installed on each of the computer workstations (13) of the online poker system (2). Each broadcast terminal (3) is able to access the historical game logfile (12) by means of a Web call to retrieve therefrom any game play record. The adapted client software program (not shown) on any broadcast terminal (3) utilises a retrieved game play record to generate, from the data contained therein, a video signal containing a replay of the turn of the instance of the game to which that game play record relates. The replay generated by a broadcast terminal (3) differs in two respects from the image of the turn of the game originally presented to the participating players in that particular turn of the game. Firstly, in the replayed game, the hole cards of each participating player are visible instead of being hidden. Secondly, the replay image will not be generated until a predetermined period of time, say 10 minutes, has elapsed from the end time and date stamp contained in the game play record. This restriction is present to ensure that it is not possible to access the game play record prior

5   to termination of the turn of the instance of the poker game itself, thereby eliminating any
     possibility of fraud in the turn of the game.

     The video signal produced by a broadcast terminal (3), which represents the replay of the
     turn of the poker game, is input to a scan converter (4), which converts the video signal
10   into a television signal suitable for broadcast. The video replay signals produced by each
     of the broadcast terminals (3) and corresponding scan converters (4) are made available,
     simultaneously, to a broadcast control facility (5) where a broadcast director (not shown)
     can choose any one of the four video signals for broadcast by a television transmitter.

15   In use, four different instances of the multiplayer poker game are designated for
     broadcast by an operator of the multiplayer poker system (2). The gaming server (10)
     generates a game play record for each turn of the four designated instances of the game
     and stores the generated game play records in the historical game logfile as described
     above. Each broadcast terminal (3) and its associated scan converter (4) is allocated to
20   retrieve sequential game play records from the historical game logfile that relate to a
     different one of the four designated instances of the game and to generate a video replay
     of the allocated instance of the game. The four video replay signals thus generated are
     made available in the broadcast control facility (5), providing the broadcast director (not
     shown) with a choice of four simultaneous video signals from which any one can be
25   selected for broadcast at a time. The broadcast director (not shown) can advantageously
     switch the television broadcast to a different instance of the game during periods of low
     excitement.

     It will be appreciated by those skilled in the art that the invention allows the progress of a
30   game of online multiplayer poker to be viewed by a wider audience that does not
     necessarily have access to an Internet-enabled computer workstation (13) with an
     installed client software program (not shown), making it easier to promote and to market
     the game of online multiplayer poker.

35   Numerous modifications are possible to this embodiment are possible without departing
     from the scope of the invention. In particular, the broadcast system (1) may include a

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5   single broadcast terminal (3) and associated scan converter (4), together with a variant of the modified client software program that is arranged to generate replays of four different instances of the game simultaneously, allowing the broadcast director to select any one of the replays for conversion by the scan converter to a television broadcast signal.

10   Still further, the broadcast terminal (3) can analyse the cards dealt to any participating player, as contained in the game record, as well as each community card that is dealt, and calculate the probability of each participating player obtaining a favourable hand of poker. The calculated probabilities can be superimposed on the simulated replay and converted by the scan converter for broadcast.

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Yet further, a commentary can be provided with the generated broadcast television signal. The commentary can be either an audio commentary which is generated in real time and is mixed with the output of the scan converter, or can be a written commentary that can be displayed in a scrollable text window in the simulated replay of the poker game. The

20   broadcast terminal can also accept text messages asynchronously from viewers of the broadcast signal and display these in the scrollable text window as part of the written commentary, or in a separate scrollable text window. The text messages must conform to the well-known Short Message Service (SMS) standard that is a subset of the GSM mobile telecommunication standard that is well known in the art.

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The invention therefore provides a broadcast system that permits online multiplayer games to be used as content for television broadcast signals.
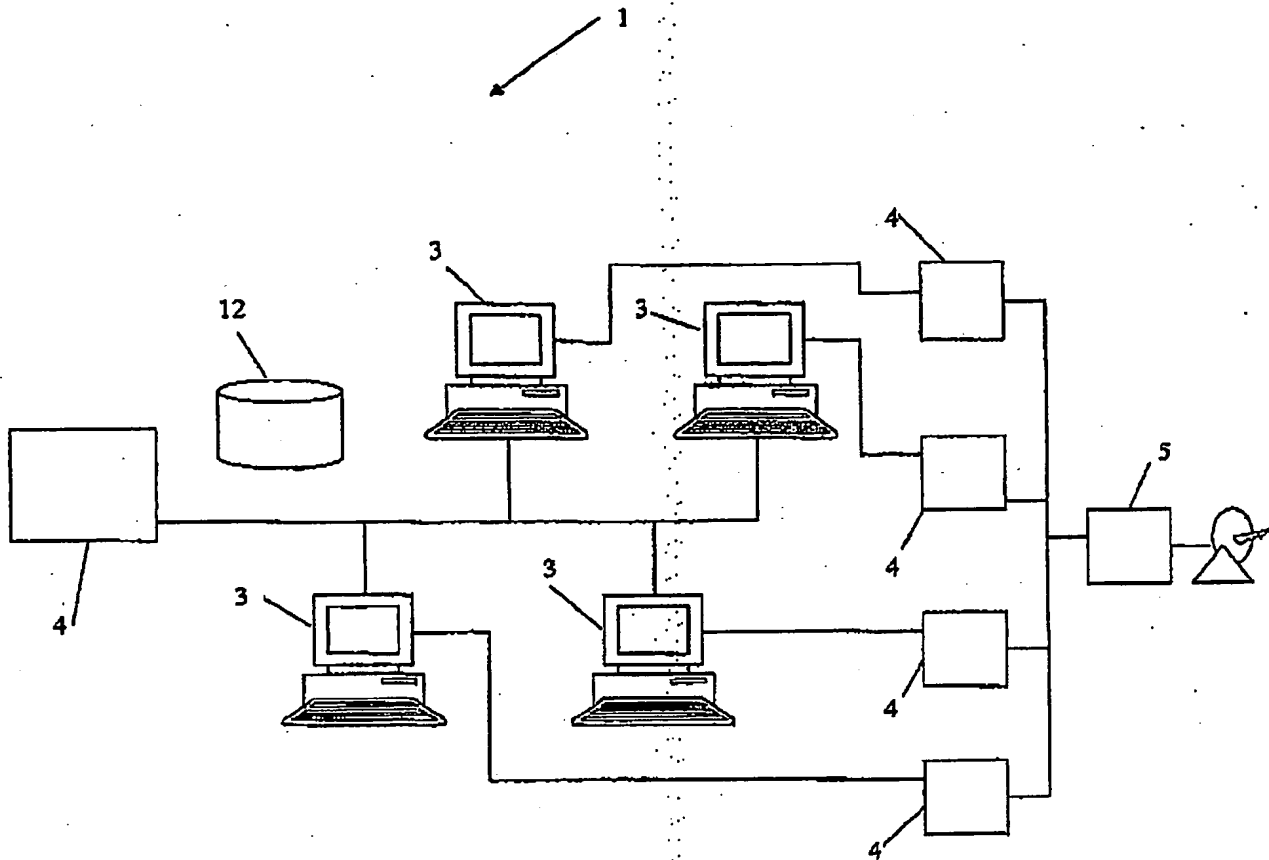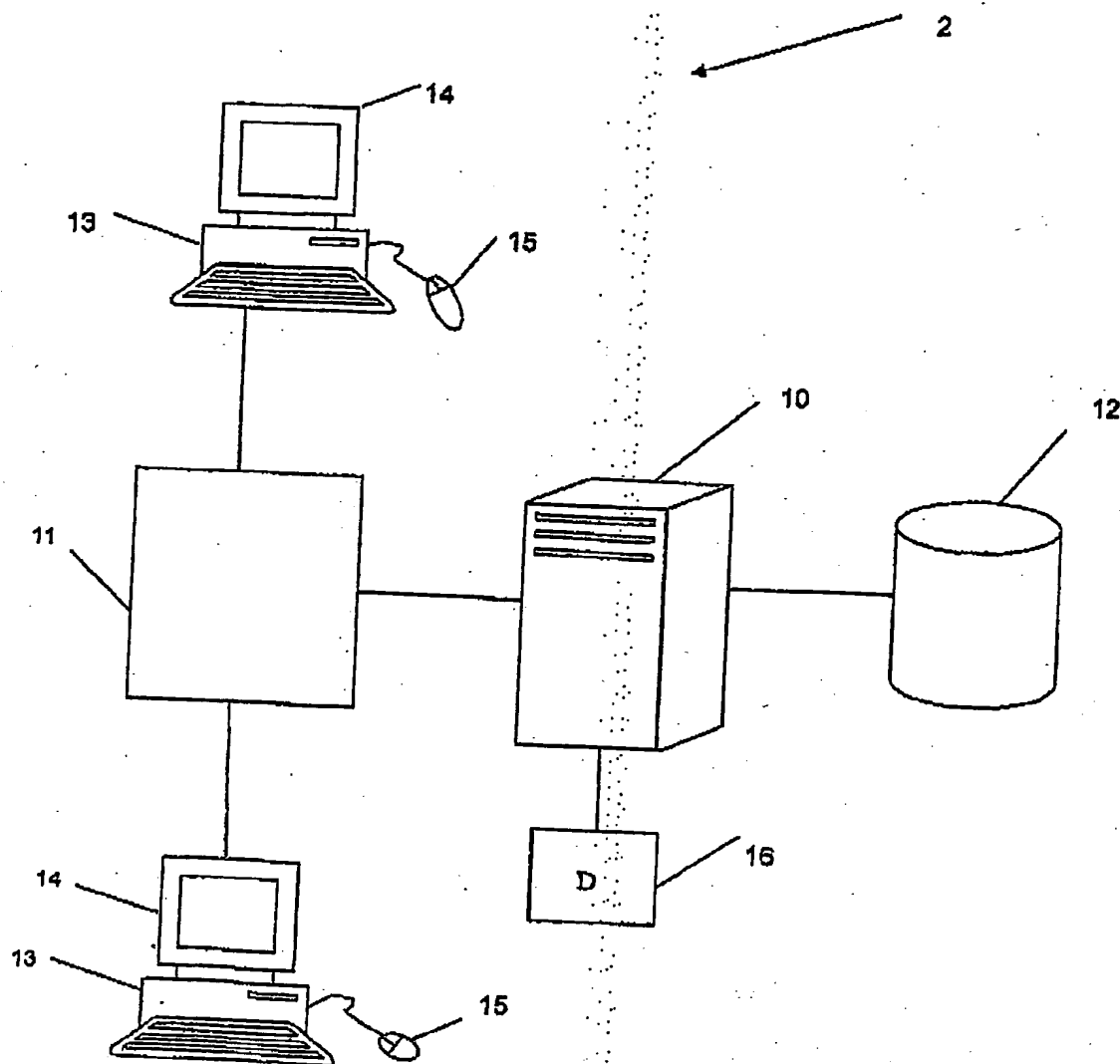
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Figure 1

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Figure 2